

1-11. (CANCELED)

12. (NEW) A power train (1) of an all-wheel drive vehicle with at least two driven vehicle axles (4, 5), the power train (1) having a main transmission (3), located between a main engine (2) and the vehicle axles (4, 5), capable of displaying different conversion ratios, the power train (1) having three control and adjustment frictional clutches (k_{VA} , k_{HA_L} and k_{HA_R}) of which a first clutch (k_{VA}) is placed between the main transmission (3) and a first vehicle axle (4), and a second clutch (k_{HA_L}) and a third clutch (k_{HA_R}) are respectively located between an axle transmission (7) and two driven wheels (5A, 5B) of the second vehicle axle (5), whereby respective transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}) are adjusted by an actuator (8), and a driving torque between the first and the second vehicle axles (4, 5) is distributed depending on the adjusted transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}).

13. (NEW) The power train according to claim 12, wherein the driving torque applied to the second vehicle axle (5) is distributed, depending on the adjusted transfer capabilities of the second clutch (k_{HA_L}) and the third clutch (k_{HA_R}), between the two driven wheels (5A, 5B) of the second vehicle axle (5).

14. (NEW) The power train according to claim 13, wherein respective actuations over the second clutch (k_{HA_L}) and over the third clutch (k_{HA_R}) take place in such a way that the transfer capabilities of the second and the third clutches (k_{HA_L} and k_{HA_R}) are varied, depending on a driving stability from an improved transversal distribution ratio (qvt) of a driving torque fraction from the main engine (2) applied to the second vehicle axle (5).

15. (NEW) The power train according to claim 12, wherein the actuator (8) is one of a hydraulic and an electro mechanical control system.

16. (NEW) The power train according to claim 12, wherein the actuator is one of a piezo electrical and an electro magnetic control system.

17. (NEW) The power train according to claim 12, wherein the actuator (8) for controlling and adjusting the transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}) is formed by multiple actuators (11, 12, 24).

18. (NEW) The power train according to claim 17, wherein the multiple actuators (11, 12, 24) respectively can be driven by an electric motor whose rotational driving motion respectively is not convertible by a ball winding drive (13, 14, 23) into a translation activation of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}).

19. (NEW) A method for controlling and adjusting a power train (1) of an all-wheel drive vehicle with at least two driven vehicle axles (4, 5), the power train (1) having a main transmission (3), located between a main engine (2) and the vehicle axles (4, 5), capable of displaying different conversion ratios, the power train (1) having three control and adjustment frictional clutches (k_{VA} , k_{HA_L} and k_{HA_R}), of which a first clutch (k_{VA}) is located between the main transmission (3) and a first vehicle axle (4), and a second clutch (k_{HA_L}) and a third clutch (k_{HA_R}) are respectively located between an axle transmission (7) and two driven wheels (5A, 5B) of the second vehicle axle (5), whereby respective transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}) are adjusted by an actuator (8), and the driving torque between the first and the second vehicle axles (4, 5) can be distributed depending on the adjusted transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R});

the method comprising the steps of adjusting the transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}) for a lengthwise distribution of the driving torque between the two driven vehicle axles (4, 5), such that one of the first, the second and the third clutches (k_{VA} or k_{HA_L} or k_{HA_R}) operates under a synchronous condition, while the transfer capabilities of the other two of the first, the second and the third clutches (k_{HA_L} and k_{HA_R} , or k_{VA} and k_{HA_R} , or k_{HA_L} and k_{HA_R}) are varied between a lower limit value ($W(u)$) and an upper limit value ($W(o)$), in which the synchronous condition of the first, the second and the third clutches (k_{VA} , k_{HA_L} or k_{HA_R}) corresponds.

20. (NEW) The method according to claim 19, further comprising the steps of:

setting a lower limit value ($W(u)$) for the transfer capabilities of the first, the second and the third clutches (k_{VA} , k_{HA_L} , k_{HA_R});

prohibiting transfer of driving torque by one of the first, the second and the third clutches (k_{VA} , k_{HA_L} , k_{HA_R}) to another one of the first, the second and the third clutches (k_{VA} , k_{HA_L} , k_{HA_R}); and

transferring driving torque completely and approximately through the first, the second and the third clutches (k_{VA} , k_{HA_L} and k_{HA_R}) without power losses.

21. (NEW) The method according to claim 19, further comprising the step of varying a lengthwise distribution ratio (lvt) of driving torque between the two vehicle axles (4, 5) by modifying at least one of:

the transfer capability of the first clutch (k_{VA}), and

the transfer capability of the second clutch (k_{HA_L}) and of the third clutch (k_{HA_R}).

22. (NEW) The method according to claim 19, further comprising the step of adjusting a transversal distribution ratio (qvt) of the driving torque portion applied to the second vehicle axle (5) between two driven wheels (5A, 5B) of the second vehicle axle (5), depending on the transfer capability of the second clutch (k_{HA_L}) and of the third clutch (k_{HA_R}).